

WE CLAIM:

1. A downhole pipe repair apparatus, comprising:

5 a surface treatment apparatus adapted for cleaning an interior surface of said pipe;
and
a plating apparatus adapted for plating a new surface on the interior surface of said
pipe after said surface treatment apparatus cleans said interior surface of said pipe.

10 2. The downhole pipe repair apparatus of claim 1, further comprising:

a corrosion monitoring tool adapted for examining said interior surface of said
pipe after said plating apparatus plates said new surface on said interior surface of
said pipe.

15 3. The downhole pipe repair apparatus of claim 2, further comprising:

a sealing apparatus disposed between the corrosion monitoring tool and said
surface treatment apparatus adapted for sealing off said surface treatment
20 apparatus from said corrosion monitoring tool inside said pipe.

4. The downhole pipe repair apparatus of claim 3, further comprising:

A sealing apparatus disposed between the surface treatment apparatus and the
25 plating apparatus adapted for sealing off said plating apparatus from said surface
treatment apparatus inside said pipe.

REPLACED BY
ART 84 AMB

5. A method for downhole pipe repair, said method comprising:

cleaning an interior of said pipe; and

5 plating a new surface on the interior of said pipe after the cleaning step.

6. The method of claim 5, wherein the cleaning step further comprises:

examining said interior of said pipe; and

10 cleaning said interior of said pipe after the examining step.

7. The method of claim 6, wherein the plating step comprises an electrolytic plating step.

15 8. The method of claim 6, wherein the plating step comprises a chemical plating step.

9. The method of claim 6, wherein the cleaning step comprises blasting a material against said interior of said pipe thereby generating removed corroded areas, and
20 collecting removed corroded areas in a container.

10. The method of claim 6, said method further comprising re-examining said interior of said pipe after the plating step.

25 11. The method of claim 10, wherein the examining and the re-examining step each further comprise:

REPLACED BY
AFT 34 AUG 03

pressing one or more fingers against said interior of said pipe, passing said fingers over said interior of said pipe, and flexing said fingers when a corroded area is encountered on said interior; and

5 generating an electrical signal in response to the flexing step representative of said corroded area..

12. The method of claim 10, wherein the examining and the re-examining step each further comprise:

10

propagating a compressional or shear wave through one or more corroded areas on said interior of said pipe, receiving the compressional or shear waves from the interior of said pipe, and generating a record of the received compressional or shear waves representative of said corroded areas.